

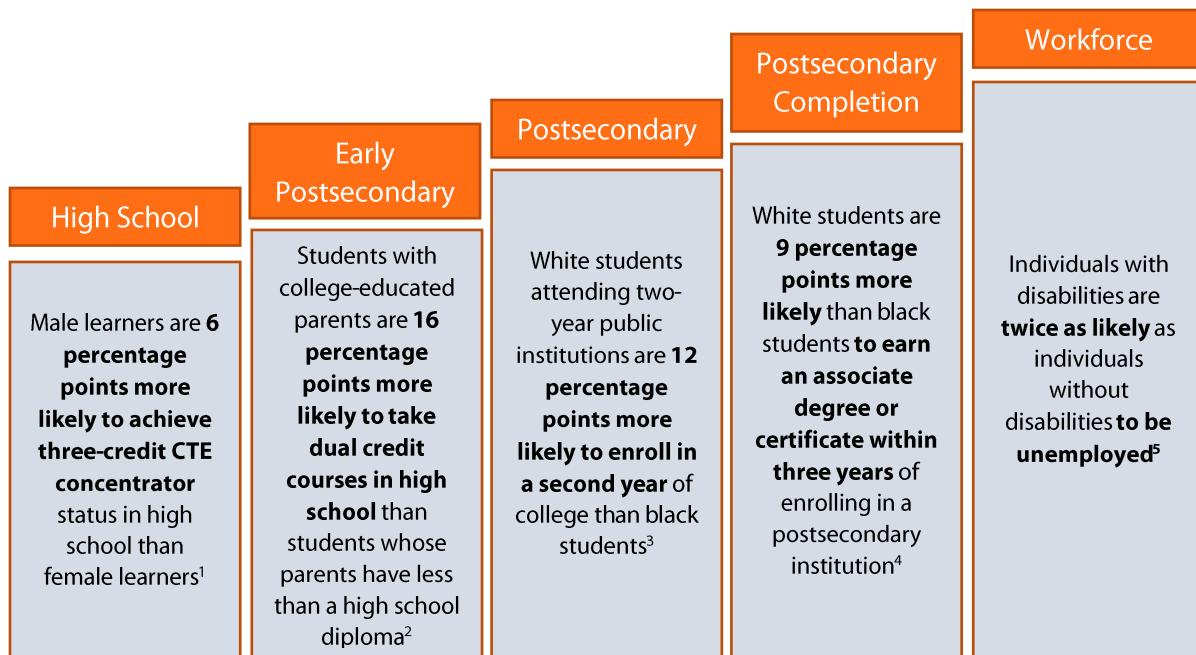
The promise of high-quality Career Technical Education (CTE) is meaningful, real-world education aligned to a family-sustaining career, one that provides dignity and helps each learner reach their fullest potential. But as a result of systemic decisions and practices at the state and local levels, as well as the accumulation of advantages among privileged learners who are able to more easily navigate their career pathways, access to and success within CTE is not always equitable. This brief, the fifth and final publication in the Making Good on the Promise series, examines some of the barriers that limit learner success at all education levels and ways that states can support each learner to complete a program of study and transition successfully along their chosen career pathway.

Friction on the Road to Success

For 21st century workers, success is rapidly being redefined. A high school education is no longer sufficient for high-wage employment, and the path to a postsecondary credential of value can be a convoluted one. Each transition — from secondary to postsecondary education, from postsecondary education to the workforce, or from adult basic education to postsecondary education — carries new frictions that can prevent a learner from achieving success. These barriers include conflicting work and education schedules, unreliable transportation, school fees and equipment, developmental coursework that needs to be completed before students ever have the opportunity to earn credits toward a credential and more. All too often, these barriers disproportionately affect learners of color, learners with disabilities and learners from low-income families (see Figure 1).

Teachers, faculty, counselors and administrators are the frontline staff who have built one-on-one relationships with learners and can step in at the right moment to give them the guidance and support they need. There is no substitute for these relationships, but state CTE leaders can also play a critical role in supporting learner success. Many common barriers to success result from decisions and policies enacted at the system or state level. It is incumbent upon state CTE leaders to identify and remove systemic barriers to success and make sure resources, information and training are available to support frontline staff.

This brief examines three approaches states can take to ensure learner success. Several of these strategies are in practice in other secondary or postsecondary contexts but can and should be applied to CTE and career pathways. One strategy is to encourage the use of data-driven support systems and empower local leaders to deploy just-in-time supports to ensure that learners can successfully complete their career pathways. Navigating career pathways can be tough without appropriate guidance, information and services. Early warning systems that monitor learner progress and trigger interventions in response to key indicators take the onus off the learner and ensure that resources are deployed strategically to maximize impact.

Figure 1: Disparities in Learner Success at Critical Transition Points

Second, states can provide integrated student services to support wellness, academic preparation and financial stability, which are common deterrents to learner success.⁶ Some institutions have set aside pools of funds to help learners cover one-off expenses such as medical bills, a rent payment or textbooks. Others are focusing on providing integrated support services such as academic, health and emotional care. Supports such as these can help remove the friction that leads to students dropping out and ensure that learners can successfully achieve a credential of value.

Finally, states can implement policies and encourage practices that support effective learner transitions. Whether they are moving from secondary to postsecondary education, postsecondary education to the workforce, or the workforce back into an education or training program, learners should be able to move seamlessly along their career path. State leaders should design flexible, interconnected programs of study and career pathways that allow learners to do so.

The U.S. workforce is becoming increasingly diverse. With rapidly shifting demographics, state leaders must ensure that each and every learner is able to access, feel welcome in, fully participate in and successfully complete high-quality career pathways.

Using Data-Driven Support Systems to Meet Learners' Needs

States are facing growing pressure to bolster credential attainment rates and graduate learners who are prepared to enter the workforce and fill in-demand jobs. Yet the students who transition successfully to postsecondary education are disproportionately white and high income,⁷ and less than a third of learners who enroll full time in two-year degree- or certificate-granting institutions graduate within three years.⁸

To increase postsecondary credential attainment, some school districts and institutions of higher education have started deploying their data to drive a comprehensive, student-centered support system. Using a method known as predictive analytics, institutions analyze data on the past

performance and behaviors of their student body to identify patterns that are correlated with success.⁹ They then use this information to identify key indicators — such as absenteeism or low grades in core academic courses — and provide proactive supports to ensure that learners can make progress toward graduation or a postsecondary credential.

Boosting Credential Attainment in Georgia One Learner at a Time

One example is the Technical College System of **Georgia** (TCSG) Early Alert Management System (TEAMS).¹⁰ TEAMS is a system-wide, web-based platform that is designed to identify learners who could benefit from additional support. It was created to support former Gov. Nathan Deal's Complete College Georgia initiative, a statewide strategy launched in 2011 with the goal of boosting the state-wide credential attainment rate from 42 percent to 60 percent by 2020.¹¹ In addition to adopting and operationalizing early alert systems to support credential completion, Complete College Georgia calls for guided pathways, transforming remediation and other high-impact strategies.

TEAMS is powered by frontline faculty and staff who are trained to submit an alert whenever a student withdraws from their courses, is repeatedly absent, or experiences personal or academic hardship. Once an alert is submitted, it is transferred to a cross-functional, campus-based team to review and determine the best way to respond.

The TEAMS platform is embedded in TCSG's knowledge management system, which enables staff on the campus to access information about each learner's personal and academic background, test scores and alert history. With this information, the team can identify the most appropriate intervention for the individual and decide who on the team is best positioned to reach out to the student.

Much of the success of this system is due to TCSG's simultaneous focus on infrastructure and capacity building. While TEAMS has helped improve access to real-time student information, the effectiveness of the system relies on each campus's cross-functional team. Each team consists of a peer group of experts who oversee a menu of student supports and services, such as academic affairs, career advising and financial aid. The teams also include representation from special populations coordinators as well as student navigators who are trained to help learners progress through their program of study.

A student might withdraw from or miss a class for a number of reasons, from financial hardship to child care needs. Once TEAMS identifies one of these indicators, faculty and staff on the campus can identify the learner's needs and ensure that they can access the support services needed to get back on track.

While TEAMS is driven by campus-based faculty, TCSG created the conditions for success by funding and setting up the system-wide data system, establishing an early warning policy, and training local leaders on how to use the system.

Supporting Learners in Secondary CTE Programs

The use of early warning systems and predictive analytics is quite common at the secondary level as well. According to a survey conducted by the U.S. Department of Education, about 52 percent of high schools reported using early warning systems in the 2014-15 school year.¹² The most common indicators are what are generally referred to as the "ABC" indicators — attendance, behavior and

course grades. However, a number of school districts are collecting and monitoring additional indicators such as homelessness (44 percent of schools with early warning systems), foster care involvement (39 percent) and reported substance abuse (38 percent).¹³

Most secondary early warning systems are designed to monitor and support learners up until the day they earn a high school diploma. But today a high school diploma is not a guarantee of a fulfilling career with a family-sustaining wage. To better support learner success, school districts should work to link data across systems and identify indicators of successful transitions to postsecondary education and/or meaningful employment. Completion of advanced CTE coursework in high school, for example, is predictive of college completion and higher future wages.¹⁴ School districts can and should build such indicators into their early warning systems to ensure that each and every high school student is on track for postsecondary and career success.

How States Can Encourage the Adoption and Use of Data-Driven Support Systems

Using predictive analytics to support equitable success in CTE requires frontline faculty, staff and educators who are trained to deploy the most appropriate interventions to support learners in need. State leaders play a fundamental role in encouraging these practices.

First and foremost, early warning systems depend on reliable, real-time data. State leaders can build an underlying and high-quality data infrastructure through policy, technology and professional development to ensure that local leaders in classrooms, school buildings and institutions of higher education across the state are equipped to monitor, analyze and respond to early alert indicators. Such an infrastructure must include integrated and interoperable data systems that reliably connect learner-level data across the secondary, postsecondary and workforce levels.

States can also ensure widespread and faithful adoption of early warning systems by expanding tools, trainings and supports to build local capacity for implementation. This effort might involve developing or procuring a statewide early warning alert system that local districts and institutions can opt into. State leaders can also invest in and facilitate professional development or identify impactful practices used in one part of the state that can be replicated elsewhere.

Finally, while secondary and postsecondary education often use separate indicators, data systems and interventions, state leaders are uniquely positioned to bring these systems together and monitor learners as they transition along their career pathway. One way states can meet this goal is by examining their data — or partnering with a university or other research institution — to identify the behaviors and experiences in high school that are predictive of postsecondary and workforce success. This information can inform the design and implementation of early warning systems and encourage greater collaboration between secondary and postsecondary education.

Providing Integrated Support Services to Secure Wellness, Academic Preparation and Financial Stability

As determined as learners may be to complete a postsecondary credential, life often gets in the way. Challenges such as paying expenses, balancing work and class schedules, and managing health and disability issues can inhibit learner success and lead to non-completion (see Figure 2).¹⁵ These challenges can affect both secondary and postsecondary learners. Too often, the onus is put on learners to support themselves as they navigate their career pathways, stacking the deck to favor learners with more accumulated advantage who are better positioned to succeed.

Previous briefs in this series have explored how financial barriers can limit access to CTE programs of study, but supports and services must be sustained to create the enabling conditions for learner success. States can support equitable success in CTE by minimizing common barriers — such as health, academic and financial barriers — that learners encounter along their career pathways. Expanding and fully funding integrated support services at both the secondary and postsecondary levels can help reduce the burden on learners and ensure that they can access the help they need to be successful.

North Carolina's Finish Line Grants

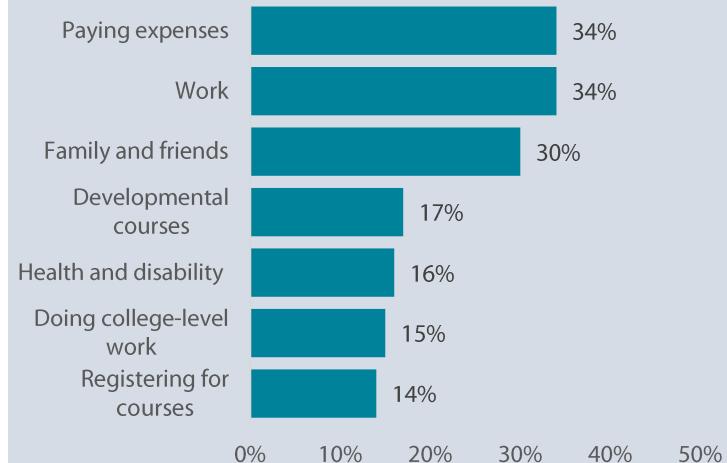
Minimizing financial burdens for learners is the objective of **North Carolina's** new Finish Line Grants program. Even though the program just launched in 2018, more than 1,700 grants — totaling approximately \$1.1 million — have already been awarded to help North Carolina Community College students address unexpected financial needs.¹⁶

The Finish Line Grants program was designed to improve credential attainment rates by helping learners who are well along the way toward completing a postsecondary degree or credential program address unexpected financial emergencies. Each learner can receive up to \$1,000 per semester to cover expenses ranging from textbook costs to medical bills or even a rent payment. This financial support means that temporary hardships such as a lost job or a sick child do not take a permanent toll on learner success. In the first two years of the program, North Carolina Community College students have used Finish Line Grant funds to pay for medical bills, car repairs and other expenses.¹⁷ Recognizing that these expenses are often urgent, North Carolina has committed to reviewing and approving applications within three business days to ensure that needs are addressed as quickly as possible.¹⁸

There are very few eligibility requirements to apply for funding. Learners must be enrolled in the North Carolina Community College system, be in good academic standing, and have completed at least 50 percent of their degree or credential program. Importantly, the program does not have any "gotcha" requirements such as having to pay down library fees or other expenses to qualify.

The first two years of the Finish Line Grants program were funded using Title I dollars from the Workforce Innovation and Opportunity Act. Gov. Roy Cooper included a line item to scale and sustain the program in his Fiscal Year 2020 budget proposal, which was not yet passed by the time this paper was published. The Finish Line Grants are operated out of the North Carolina Department of Commerce and are administered locally through a partnership between local community colleges and workforce development boards, which jointly review and distribute funding based on learners' needs.

Figure 2: Common Barriers to Learner Success in Postsecondary Education



Source: *Revealing Institutional Strengths and Challenges*

North Carolina's Finish Line Grants in Action

The Finish Line Grants program is still relatively new, but one campus has already had measurable success. In just the first year, Southwestern Community College (SCC) in Sylva, NC, awarded 129 grants totaling \$100,000 to 101 students. Student needs were primarily divided across three categories:



Housing (rent and utilities):
35 percent



Transportation (car repair, new tires, etc.): 30 percent



Educational expenses (supplies, fees, books, etc.):
30 percent

At the end of the year SCC administrators saw an unprecedented impact. Among students who received Finish Line Grants, 97 either graduated or were still enrolled. SCC faculty attribute this success to a couple of different factors. One is that administrators made the decision about halfway through the school year to find space on campus for a case worker from the workforce development board to meet with students and process applications more quickly. The second was aggressive marketing efforts across campus. Together, these factors have helped raise awareness about the opportunity and ensure that students can take advantage of it. SCC hopes even more students will apply in the future.

Connecting Learners With Integrated Support Services

In addition to helping learners deal with unexpected financial emergencies, states can address other needs by expanding access to health, wellness and academic services and making sure learners are aware of available services. State and federal investments in programs such as the Supplemental Nutrition Assistance Program, child nutrition programs including school breakfast and school lunch, Temporary Assistance for Needy Families, housing choice vouchers, Medicaid, and the Children's Health Insurance Program support a menu of services to help learners of all ages address hardships and persist along their career pathway. But all too often these services are disparate and uncoordinated. State and local leaders should work to braid funding and services across program areas to better deliver what learners need when they need it.

In **Michigan**, for example, the Traverse Bay Area Intermediate School District Career-Tech Center (TBAISD-CTC) offers students robust supports including health care, academic advising and staff-donated funds and resources for students and families in need. TBAISD-CTC was established in 1976 and serves high school juniors and seniors across five counties. Geographically, Traverse Bay is the largest intermediate school district in the state of Michigan, with a service area as large as the state of Delaware. The demographic makeup of the student population is quite broad. Some students come from affluence and others from extreme poverty, including some learners who are experiencing homelessness.

To make sure each learner can be successful, TBAISD-CTC leverages braided funding and community partnerships to offer a range of support services. The center partners with the Youth Health and Wellness Center to provide adolescent health services to students between the ages of 10 and 21. Services include primary care, immunizations, physicals and mental health counseling.

TBAISD-CTC further supports learners transitioning into postsecondary institutions and career pathways by offering a scholarship program. TBAISD-CTC is funded and supported by a regional tax millage, the Strengthening Career and Technical Education for the 21st Century Act (Perkins V), in-kind donations, and close partnerships with business and industry.

How States Can Strengthen and Expand Access to Integrated Support Services

States play an important role in creating the enabling conditions for learner success. All too often, learners at all educational levels are left to fend for themselves to meet academic, wellness and financial needs outside of the classroom. Learner success should not be left up to chance. Instead, state leaders should identify and coordinate all of the available resources, supports and services to ensure that students can get the supports they need when they need them.

As mentioned previously, one approach states can take is braiding funding across related programs and services to build a comprehensive and coordinated student support system. Imagine if learners could access a one-stop shop to meet their academic, financial and wellness needs all in the same place. This approach would take the burden off of learners and make removing barriers to success as easy as possible. While states are not directly involved in providing these services to students, they can ensure that policies, tools, resources and trainings are aligned to empower local leaders to strengthen and expand student supports in the most impactful way.

Creating the Enabling Conditions for Successful Transitions

Without the proper systems and supports, the pipeline into high-wage, in-demand careers can be long and unforgiving. One out of five learners drop out of high school before earning a high school diploma. Only three out of five high school graduates enroll immediately in postsecondary education, and among first-time, full-time students attending public two-year postsecondary institutions, only two out of 10 earn an associate degree within three years.¹⁹

Who are the learners that are making it through? According to an analysis by the American Council on Education, 61 percent of Asian adults and 49 percent of white adults over age 25 have an associate degree or higher. By comparison, 34 percent of black adults and 25 percent of Hispanic adults over age 25 do (see Figure 3).²⁰ More work is needed by state and local leaders to streamline educational and career pathways and ensure that every learner who pursues a credential of value can obtain one.

One of the critical transition points is between secondary and postsecondary education. Many learners who aim to enroll in college when they walk across the stage at high school graduation never show up for the first day of class in the fall. This phenomenon is commonly known as summer melt.

State and local leaders are working to reduce summer melt and boost postsecondary enrollment and persistence through a number of different approaches. Common strategies include FAFSA (Free Application for Federal Student Aid) completion campaigns or summer bridge programs, which help learners get caught up on their academics so they can enroll in credit-bearing coursework in college.

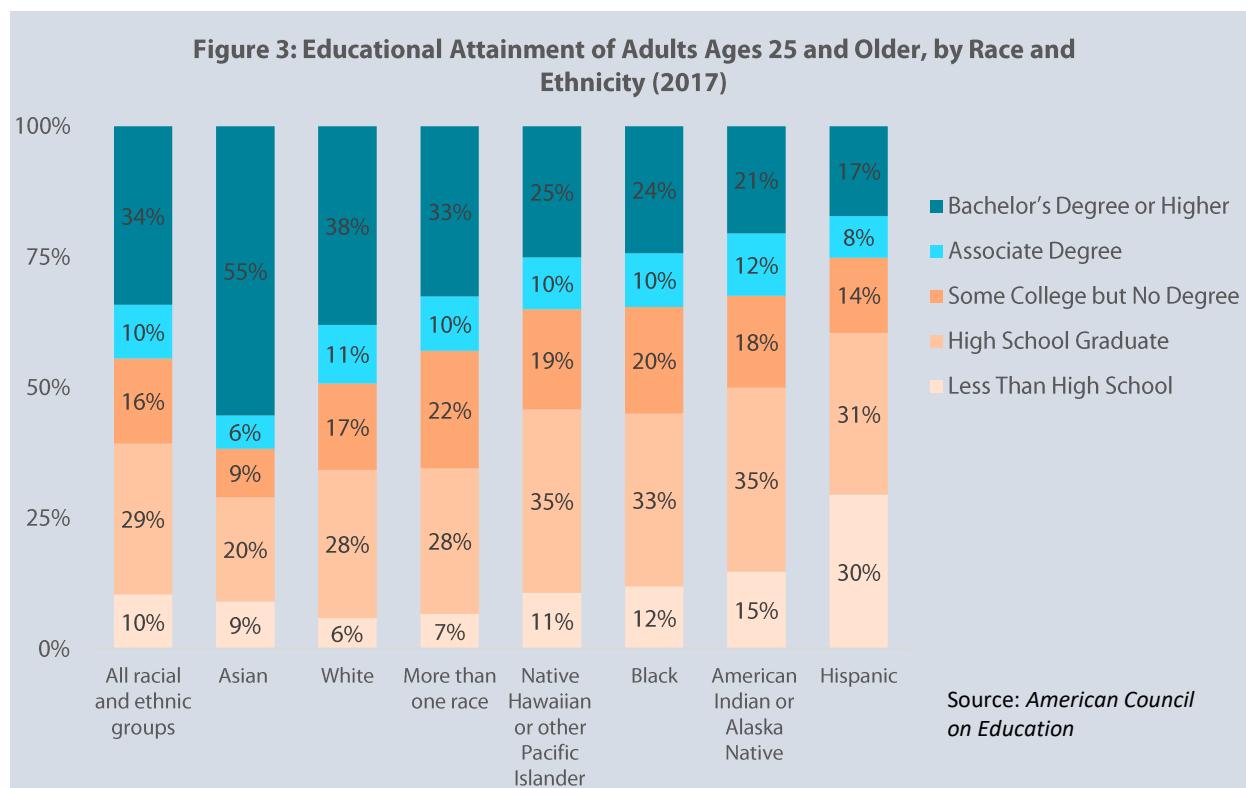
One of the most effective strategies to support student transitions to postsecondary education is expanding access to early postsecondary opportunities such as dual or concurrent enrollment. Earning postsecondary credit in high school is associated with higher rates of high school completion, academic achievement and postsecondary degree attainment.²¹ Completing dual credit in CTE, in particular, is correlated with increased college enrollment and persistence.^{22, 23}

Yet the students who participate in and complete early postsecondary opportunities tend to be white or Asian and have college-educated parents.²⁴ The conditions by which high school students access and enroll in early postsecondary offerings are not conducive for equitable participation and success. To address this challenge, many states are working to increase coordination between secondary and postsecondary education and expand access to dual or concurrent enrollment opportunities.

Ohio's College Credit Plus Innovative Waiver Program

In 2015, **Ohio** established a program called College Credit Plus that offers all students in grades seven through 12 tuition-free access to college courses at public Ohio universities or colleges and participating private institutions.²⁵ The program has been successful in promoting early postsecondary credit attainment among high school students. Three years later, the General Assembly passed a revision to College Credit Plus requiring prospective students to meet a minimum threshold score on a qualifying assessment to be eligible to participate. Under the policy, students who score below the minimum threshold within one standard error of measurement can also be considered eligible for College Credit Plus if they have a 3.0 grade point average in high school or a recommendation from a school official. Students must also meet the traditional undergraduate student admission requirements of the higher education institution.

While College Credit Plus is available to any eligible high school student in the state, the Ohio Department of Higher Education (ODHE) has taken measures to ensure that opportunities to access and complete dual enrollment courses are equitable across different populations of students. Within Ohio statute, the chancellor of ODHE and the superintendent of public instruction of the Ohio Department of Education have the authority to waive specific requirements for students to participate in College Credit Plus.²⁶ Specifically, the waiver process allows institutions to set up innovative programs designed to increase enrollment by under-represented subgroups of students.



Promoting Equity by Design in Early Postsecondary Opportunities

Kentucky has made considerable investments in expanding early postsecondary opportunities through 10 separate dual credit scholarships, leading to a 200 percent increase in CTE dual credit participation from 2015 to 2019. With such rapid expansion, Kentucky is monitoring data to see who is participating and succeeding and what can be done to improve credit attainment and successful transitions.

Kentucky is working to improve equitable success in dual credit by strengthening coordination and partnership between the Kentucky Department of Education (KDE) and the Kentucky Community and Technical College System (KCTCS). The entities are working in tandem to create a more seamless handoff from secondary to postsecondary education, recognizing that they both must play a role in supporting learner success.

KDE, for example, is creating grade 9-14, grade 9-16 and grade 9-apprenticeship career pathway blueprints and providing career advising so learners can make informed decisions about their education. Meanwhile, KCTCS is developing guidance for institutions to help high school students navigate the world of postsecondary education and get the supports they need to be successful.

As states roll out or scale new early postsecondary programs it is important to put equity front and center and ensure that measures are in place to promote and secure equitable participation and success for each learner.

Over the first three years of the program some of the institutions of higher education used multiple measures to allow students to participate when their assessment scores reflected that the students entered College Credit Plus courses unprepared for credit-bearing coursework. The colleges observed that the students often caught up quickly and improved their scores by the end of the year. When the eligibility requirements were revised in 2018, there was concern that the new requirements would disproportionately limit access for certain populations. As such, several institutions applied for waivers to the student eligibility requirement to improve equitable recruitment.

In the first year, many of the waivers focused on recruiting marginalized or under-represented subgroups into in-demand career pathways, such as recruiting more girls into engineering or students of color into finance. To be eligible for a waiver, participating institutions were required to identify academic supports and services to help students succeed once they enroll. Postsecondary leaders saw the waiver process as an opportunity to build a more diverse pipeline into their institutions and connect learners with opportunities and supports so they could be successful. However, ODHE has diligently upheld the same expectations for rigor and quality to ensure that programs approved through the waiver process are not watered down. Rather, the approach is meant to connect learners with the opportunities, supports and services needed to rise to the standards and expectations of credit-bearing postsecondary coursework.

Creating Conditions for Learners to Develop Occupational Identity

Finally, while earning a sought-after credential or degree is important and should be the objective of any career pathway, the ultimate measure of success is whether learners transition successfully into high-wage, high-skill employment in an in-demand occupation. Career preparation should not be an afterthought but rather a core component of high school and postsecondary education. Experiences such as work-based learning and industry mentorships give learners much-needed exposure to the world of work and the opportunity to develop professional skills that they will need in the workplace.

State and local leaders can and should create the conditions that allow each learner to gain these experiences and transition successfully into the workforce.

One important enabler of successful transitions is the development of an occupational identity. Occupational identity is an individual's understanding of what they are skilled at doing, what they enjoy, and where they feel a sense of belonging.²⁷ It is a collection of ideas that influence an individual's decisionmaking and ultimately their career trajectory. Occupational identity plays a critical role in supporting learner success by allowing individuals to visualize and pursue a path toward a high-skill, high-wage and in-demand occupation.

The body of research on occupational identity and the conditions that are necessary for its development is burgeoning. The Connected Learning Alliance, with support from the Bill & Melinda Gates Foundation, lays out a three-part framework to understand how learners develop an occupational identity:²⁸

Figure 4: Framework for Developing Occupational Identity

Self-concept	Self-efficacy	Belonging
An individual's perceptions about themselves that influence their behaviors	An individual's understanding of their own skills and abilities	Whether or not an individual feels that they fits into a certain community or place

Each of these dimensions is influenced by external forces that can, in turn, shape an individual's occupational identity and redirect their career pathway. For example, cultural representations in media, art and advertising can reinforce perceptions about who belongs in certain occupations. Are engineers and scientists portrayed in movies and television shows only by men? Repeated exposure to such stereotypes can reinforce a female learner's self-concept and push her toward a career that she perceives is more typical for her gender. Perhaps so many fewer women than men pursue science, technology, engineering and mathematics occupations because they have not fully developed their self-concept as a future engineer or scientist.²⁹

The Connected Learning Alliance suggests, however, that positive exposure, engagement and participation can strengthen a learner's occupational identity. Experiences such as seeing race- and gender-alike role models in a non-traditional occupation and engaging in work-based learning or internships can help a learner visualize himself or herself in that role. State and local leaders should make sure early exposure opportunities are embedded throughout career pathways to give learners an opportunity to develop occupational identity.

Expanding Social Capital

Another important factor in successful transitions to the world of work is building a professional network. According to MDRC, CTE practitioners observe that learners from historically under-represented communities "may not know many other people who have pursued careers in their field of interest, and may lack social support for completing programs."³⁰ Learners from more affluent and college-educated families often have access to more social capital — the networks of family, friends and colleagues that allow individuals to move more easily through the labor market — than their peers, giving them a head start on their careers.³¹ This head start can come in the form of easier access to internships at reputable organizations and other opportunities to build their resumes.

CTE can help learners accumulate and expand social capital by exposing them to work-based learning experiences and allowing them to build a network of adult professionals. As learners progress through their career pathways they can draw on these networks for guidance, support and professional connections. It is incumbent upon state and local leaders to ensure that such high-quality work-based learning experiences are inclusive and reflect the diversity of the learners they serve.

In Colorado, for example, Denver Public Schools (DPS) launched a new program in 2014 called CareerConnect with the purpose of expanding career pathways and work-based learning opportunities for high school students.³² The program is an outgrowth of sector partnership efforts led by the Colorado Workforce Development Council and has been accelerated with funding from the JPMorgan Chase & Co. New Skills for Youth initiative (which also provided support for the Making Good on the Promise series).

Industry exposure is a core component of the program. Each student is connected one-to-one with a mentor in their industry of interest, who stays in communication with the student throughout the year. In the 2017-18 school year, DPS documented 2,572 industry contact hours through the mentorship program. DPS also offers internship opportunities through more than 100 different employers, and 88 percent of supervisors in 2018 said their intern "was either very well prepared or adequately prepared to adapt to the norms and expectations of a professional work environment."³³ To help participating students prepare for these experiences, DPS also provides interview preparation and resume writing support.

CareerConnect's focus on industry exposure and work-based learning has helped foster social capital, a professional network and occupational identity among a very diverse population of learners. Sixty-four percent of program participants receive free and reduced-price lunch, and 75.5 percent are non-white.³⁴ CareerConnect gives each learner the opportunity to strengthen professional skills and make a more seamless transition into the world of work.

How States Can Support Learner Transitions Into Postsecondary Education and the Workforce

Over the past decade, states have made considerable efforts to expand access to early postsecondary opportunities by rolling out new tuition scholarships for high school students, building dual and concurrent enrollment into school accountability systems, and ensuring that learners and their families are made aware of these opportunities. States should continue this work and, as ODHE is doing, give institutions the opportunity to pilot innovative programs that are targeted at recruiting under-enrolled learners.

States can also help learners develop an occupational identity and build social capital by piloting and scaling work-based learning programs, including mentorship programs, and providing professional development, technical assistance and tools to train mentors and worksite supervisors who are working with historically marginalized populations. From early exposure experiences to more intensive internships and pre-apprenticeships, work-based learning provides an opportunity to build a professional network and develop a set of skills that can be acquired only in the workplace. States must take responsibility to ensure that these programs are accessible to each and every learner and that each learner is supported to be successful.

A Path Forward

Throughout the Making Good on the Promise series, Advance CTE has explored state strategies to identify equity gaps, rebuild trust among historically marginalized populations, and expand access to high-quality CTE opportunities. But the work does not stop there. State leaders have a responsibility to ensure that each learner not only is able to access CTE but also feels welcome and can fully participate in and successfully complete their career pathway. Meeting this goal means constantly monitoring learner progress and creating the conditions that are most conducive for learner success. State leaders should consider the following strategies:

- **Institute early warning systems and deploy just-in-time interventions to get learners back on track.** Predictive analytics can be used at both the secondary and postsecondary levels to identify the indicators that are most strongly correlated with learner success. Once a learner is identified — based on attendance, academic performance or other metrics — school-based staff can open up communication and connect the learner with the supports they need.
- **Provide integrated support services to secure wellness, academic preparation and financial stability.** Financial, health and academic challenges are some of the leading causes of college dropout. A temporary experience such as a car accident or a medical emergency could have permanent consequences for a learner who falls short of obtaining a credential of value. States, school districts and institutions of higher education can expand integrated support services to minimize the impact of these experiences and reduce friction along each learner's career pathway.
- **Create the conditions for learners to transition successfully from secondary education to postsecondary education and the workforce.** Despite state-led efforts to bolster postsecondary credential attainment, far too many learners fall through the cracks at each stage of their career pathway. States can help facilitate more seamless transitions to postsecondary education and the workforce by expanding early postsecondary and work-based learning opportunities and targeting learners who are under-served and under-enrolled. These opportunities help learners accrue experiences, develop an occupational identity and build much-needed social capital that will make transitioning to high-wage, high-skill employment in an in-demand occupation easier.

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